



CowCulling.ST25.txt  
SEQUENCE LISTING

<110> ADViSYS

<120> GROWTH HORMONE RELEASING HORMONE ("GHRH") TREATMENT DECREASES CULLING IN  
HERD ANIMALS

<130> 108328.00170 - AVSI-0033

<140> 10/764,818

<141> 2004-01-26

<160> 30

<170> PatentIn version 3.1

<210> 1

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for HV-GHRH.

<400> 1

His Val Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly  
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
35 40

<210> 2

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for TI-GHRH.

<400> 2

Tyr Ile Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly  
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
35 40

<210> 3

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for TV-GHRH.

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<400> 3

Tyr Val Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly  
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
35 40

<210> 4

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for 15/27/28-GHRH.

<400> 4

Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Ala Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Leu Asn Arg Gln Gln Gly  
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
35 40

<210> 5

<211> 44

<212> PRT

<213> artificial sequence

<220>

<223> Consensus sequence for GHRH

<400> 5

Thr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln Gly  
20 25 30

Glu Ser Asn Gln Glu Arg Gly Ala Arg Ala Arg Leu  
35 40

<210> 6

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Artificial sequence for GHRH (1-40)OH.

<220>

<221> MISC\_FEATURE

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<222> (1)..(1)  
<223> Xaa at position 1 may be tyrosine, or histidine

<220>  
<221> MISC\_FEATURE  
<222> (2)..(2)  
<223> Xaa at position 2 may be alanine, valine, or isoleucine.

<220>  
<221> MISC\_FEATURE  
<222> (15)..(15)  
<223> Xaa at position 15 may be alanine, valine, or isoleucine.

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa at position 27 may be methionine, or leucine.

<220>  
<221> MISC\_FEATURE  
<222> (28)..(28)  
<223> Xaa at position 28 may be serine or asparagine.

<400> 6

Xaa Xaa Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Xaa Gln  
1 5 10 15

Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Xaa Xaa Arg Gln Gln Gly  
20 25 30

Glu Arg Asn Gln Glu Gln Gly Ala  
35 40

<210> 7  
<211> 323  
<212> DNA  
<213> artificial sequence

<220>  
<223> Eukaryotic promoter c5-12.

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aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacacca aatatggcga 180  
cggttcctca ccgctcgcca tatttggtg tccgccctcg gccggggccg cattcctggg 240  
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gctacccgga ggagcgggag gcg 323

<210> 8  
<211> 190  
<212> DNA  
<213> artificial sequence

CowCulling.ST25.txt

<220>

<223> Nucleic acid sequence of a hGH poly A tail.

<400> 8

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gtgcccacca gccttgtcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc	120
ttctataata ttatggggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca	180
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<210> 9

<211> 219

<212> DNA

<213> artificial sequence

<220>

<223> This is the cDNA for Porcine GHRH.

<400> 9

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ccacctcccc ctttgaccct caggatgcgg cggcacgtag atgccatctt caccaacagc	120
taccggaagg tgctggccca gctgtccgcc cgcaagctgc tccaggacat cctgaacagg	180
cagcagggag agaggaacca agagcaagga gcataatga	219

<210> 10

<211> 40

<212> PRT

<213> artificial sequence

<220>

<223> Amino acid sequence for porcine GHRH.

<400> 10

Tyr	Ala	Asp	Ala	Ile	Phe	Thr	Asn	Ser	Tyr	Arg	Lys	Val	Leu	Gly	Gln
1				5					10					15	

Leu	Ser	Ala	Arg	Lys	Leu	Leu	Gln	Asp	Ile	Met	Ser	Arg	Gln	Gln	Gly
			20					25					30		

Glu	Arg	Asn	Gln	Glu	Gln	Gly	Ala
		35					40

<210> 11

<211> 3534

<212> DNA

<213> artificial sequence

<220>

<223> sequence for the HV-GHRH plasmid.

<400> 11

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gtgaggaatg gtggggagtt attttagag cggtgaggaa ggtgggcagg cagcaggtgt	180

## CowCulling.ST25.txt

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<210> 12  
 <211> 3534  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Sequence for the TI-GHRH plasmid.

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cattcctggg ggccgggcgg tgctcccgcc cgcctcgata aaaggctccg gggccggcgg	360
cggcccacga gctaccgga ggagcgggag gcgccaagct ctagaactag tggatcccaa	420

## CowCulling.ST25.txt

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<210> 13  
 <211> 3534  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Nucleic acid sequence for the TV-GHRH plasmid.

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## CowCulling.ST25.txt

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CowCulling.ST25.txt

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## CowCulling.ST25.txt

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CowCulling.ST25.txt

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## CowCulling.ST25.txt

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CowCulling.ST25.txt

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<220>  
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CowCulling.ST25.txt

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CowCulling.ST25.txt

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gaagcattta tcagggttat tgtctcatga gcggatacat atttgaatgt atttagaaaa	4200
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<210> 17

<211> 2710

<212> DNA

<213> artificial sequence

<220>

<223> Codon optimized ("GHRH") sequence for mouse.

<400> 17

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cccgcccgcc tcgataaaaag gctccggggc cggcggcggc ccacgagcta cccggaggag	360
cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac	420
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cagccactgc agcctgcctc ccagccctcc cttcaggatg cagaggcacg tggacgccat	540
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CowCulling.ST25.txt

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agggcgatcg 2710

```

<210> 18  
 <211> 2713  
 <212> DNA  
 <213> artificial sequence

CowCulling.ST25.txt

<220>

<223> Codon optimized ("GHRH") sequence for rat.

<400> 18

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ttagagcggg gaggaagggt ggcaggcagc aggtgttggc gctctaaaaa taactcccgg	180
gagttat	240
tcgccatatt tgggtgtccg ccctcggccg gggccgcatt cctgggggcc gggcgggtgt	300
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cgggaggcgc caagcggatc ccaaggccca actccccgaa ccactcaggg tcctgtggac	420
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CowCulling.ST25.txt

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ggaagggcga	tcg					2713

<210> 19  
 <211> 2716  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Codon optimized ("GHRH") sequence for bovine.

<400> 19	
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ggcggcccac	gagctacccg
cccgaaccac	tcagggtcct
ttcctggtga	ccctgaccct
aggatcccta	ggtacgccga
ctgagcgcta	ggaagctcct
gagcagggcg	cctgataagc
tcctggccct	ggaagttgcc
gcatcatttt	gtctgactag
ggagcaaggg	gcaagttggg
ttttgttccc	tttagtgagg

CowCulling.ST25.txt

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agggcgaatt ggagct 2716

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<210> 20  
 <211> 2716  
 <212> DNA  
 <213> artificial sequence

CowCulling.ST25.txt

<220>

<223> TCodon optimized ("GHRH") sequence for ovine.

<400> 20

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CowCulling.ST25.txt

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agggcgaatt	ggagct					2716

<210> 21

<211> 2713

<212> DNA

<213> artificial sequence

<220>

<223> Codon optimized ("GHRH") sequence for chicken.

<400> 21

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CowCulling.ST25.txt

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 <212> DNA  
 <213> artificial sequence

CowCulling.ST25.txt

<220>

<223> Sequence for 5' UTR of hGH.

<400> 22

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<210> 23

<211> 782

<212> DNA

<213> artificial sequence

<220>

<223> Nucleic acid sequence of a plasmid pUC-18 origin of replication

<400> 23

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tt 782

<210> 24

<211> 5

<212> DNA

<213> artificial sequence

<220>

<223> This is a NEO ribosomal binding site

<400> 24

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<210> 25

<211> 29

<212> DNA

<213> artificial sequence

<220>

<223> Nucleic acid sequence of a prokaryotic PNEO promoter.

<400> 25

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CowCulling.ST25.txt

<210> 26  
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 <212> DNA  
 <213> artificial sequence

<220>  
 <223> Sequence for the inducible pGR1774 with human GHRH

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CowCulling.ST25.txt

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CowCulling.ST25.txt

<220>

<223> Sequence for the muscle-specific Geneswitch - pGS1633

<400> 27

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## CowCulling.ST25.txt

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CowCulling.ST25.txt

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<211> 2739

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## CowCulling.ST25.txt

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<210> 29  
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CowCulling.ST25.txt

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CowCulling.ST25.txt

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CowCulling.ST25.txt

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CowCulling.ST25.txt

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